

Steam Whistle

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This circuit consists of six square wave oscillators. Square waves are made up of a large number of harmonics. If six square waves with different frequencies are added together, the result will be a signal with a very large number of frequencies. When you listen to the result you'll find that it is very similar to a steam whistle. The circuit should be useful in modelling or even in a sound studio.

This circuit uses only two ICs. The first IC, a 40106, contains six Schmitt triggers, which are all configured as oscillators. Different frequencies are generated by the use of different feedback resistors. The output signals from the Schmitt triggers are mixed via resistors. The resulting signal is amplified by IC2, an LM386. This IC can deliver about 1 W of audio power, which should be sufficient for most applications. If you leave out R13 and all components after P1, the output can then be connected to a more powerful amplifier. In this way a truly deafening steam whistle can be created.

The 'frequency' of the signal can be adjusted with P2, and P1 controls the volume.

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